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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/516,493 | 07/22/2005 | Myung-Sun Moon | 29137.005.00 | 4918 |

30827 7590 03/29/2007
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| EXAMINER |
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ERDEM, FAZLI

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| ART UNIT | PAPER NUMBER |
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2826

| SHORTENED STATUTORY PERIOD OF RESPONSE | MAIL DATE | DELIVERY MODE |
|--|------------|---------------|
| 3 MONTHS | 03/29/2007 | PAPER |

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/516,493

Applicant(s)

MOON ET AL.

Examiner

Fazli Erdem

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 November 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4,5 and 7-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4,5 and 7-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Ko et al. (2001/0055891) and Kwon et al (7,091,282) references are included in PTO 892 form because the examiner thinks these references are also relevant. Applicant is pointed out the formulae in claim 2 of Ko et al. and claim 2 of Kwon et al.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1, 2, 4, 5 and 7-9 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which **Conclusion**

applicant regards as the invention.

In Claim 1, hydroxy groups molar ratio is specified as "80 percent or more of the total condensable functional groups." This is indefinite because if the molar ratio of the hydroxyl groups is 100 percent than the formulas specified in the claim would be void.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

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3. Claims 1, 2, 4, 5 and 7-9 rejected under 35 U.S.C. 102(e) as being anticipated by You et al. (6,852,367).

Regarding Claim 1, You et al. disclose a stable composition comprising, an organic polysiloxane precursor (column 1, lines 11-18, lines 29-41) having a weight-average molecular weight ranging from 500-20,000 (column 6, lines 18-38), and a molar ratio of hydroxyl groups approximately 80% or more of the total condensable functional groups (column 6, lines 4-17), an organic solvent (column 8, lines 54-67, table 1-4, example 1-6), and water (table 1-4), wherein said organic polysiloxane precursor comprises (SiR₁pR₂(4-p)). (SiRaY₄-4 as shown in claim 2 where R is hydrogen, Y is an akoxo (claim 3 and also column 4, lines 39-53, claim 10 also discloses that Y is any hydrolazable group), a is an integer 0 to 2.

Regarding Claim 2, column 2, lines 14-19, column 7 lines 65- column 8 lines 5, examples 1-6 and tables 1-4 disclose the required percentage composition ratios.

Regarding Claim 4, column 6, lines 4-17, disclose the required molar ratio.

Regarding Claim 5, column 8, lines 55-67 disclose the required organic solvent.

Regarding Claim 7, example 1 in column 14, disclose the required pore generating (porogen) element.

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Regarding Claim 8, example 1 and 6 and table 1 and 4, disclose the required pore generating (PGMEA/porogen) element concentration.

Regarding Claim 9, pore generation (PGMEA/porogen) element in example 1 in column 14 is a polymer.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1, 2, 4, 5, 7 and 9 rejected under 35 U.S.C. 102(e) as being anticipated by Kang et al. (2006/0127587).

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C.

102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention “by another,” or by an appropriate showing under 37 CFR 1.131.

Regarding Claim 1, Kang et al. disclose an organic silicate polymer and insulation film comprising the same where in paragraph 41, 58, 64 and 66 it is disclose an organic polysiloxane precursor having a weight-average molecular weight ranging from 500 to 30,000 and a molar ratio of hydroxyl groups approximately 80% (paragraphs 58, 64 and 66 teach that the molar ratio of the hydroxyl groups could be adjusted depending on design needs), an organic solvent and water where in paragraphs 35, 42, 46, 52 and in claims 2 and 5 the one or all of the required 3 formulas are disclosed.

Regarding Claim 4, the required silicon ratio is disclosed in paragraph 66.

Regarding Claim 5, in paragraphs 59 and 60, the required organic solvent type is disclosed.

Regarding Claims 7 and 9, in paragraph 68, the required pore-generating material is disclosed.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fazli Erdem whose telephone number is (571) 272-1914. The examiner can normally be reached on M - F 8:00 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sue Purvis can be reached on (571) 272-1236. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

FE
March 21, 2007



SUE A. PURVIS
SUPERVISORY PATENT EXAMINER